

CODIS01 - CODIS Procedures Manual

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1 Background

- 1.1 The Combined DNA Index System (CODIS) is a computerized software program designed to house DNA profiles (e.g., forensic cases, convicted offenders, arrestees, etc.) in various searchable indices or databases. The CODIS software system was developed by the Federal Bureau of Investigation (FBI) to allow for the exchange of DNA information between government forensic laboratories, law enforcement and criminal justice agencies. The information contained in the District of Columbia's DNA database and the National DNA database provides useful information in the investigation of criminal offenses and the identification of human remains, missing persons, and mass disaster victims.
- 1.2 The goal of the CODIS is to provide investigative information to law enforcement representatives. The CODIS consists of three levels: LDIS, SDIS and NDIS.
 - 1.2.1 The Local DNA Index System (LDIS) contains DNA casework profiles entered by designated local laboratories (county or city). The quality and integrity of the data within the LDIS is the responsibility of each laboratory's Local CODIS Administrator.
 - 1.2.2 The State DNA Index System (SDIS) contains the DNA profiles submitted by the state laboratory (casework and offender) and the local laboratories (casework) within the state. The quality and integrity of the data within the SDIS is the responsibility of the State CODIS Administrator.
 - 1.2.3 The National DNA Index System (NDIS) is the highest level of the CODIS and contains DNA profiles (casework and offender) submitted by all 50 United States, the District of Columbia, Puerto Rico, the U.S. Army Criminal Investigation Laboratory, the Bureau of Alcohol, Tobacco, Firearms and Explosives, and the Federal Bureau of Investigation (FBI). The NDIS is administered by the FBI. The quality and integrity of the data within the NDIS is under the responsibility of the NDIS Custodian and the NDIS Board. The NDIS serves as a centralized point to allow all participating state and local laboratories to exchange DNA information.

2 Definitions

- 2.1 For purposes of this document, the following terms shall have the designated meanings:

Original 13 Core CODIS Loci: CSF1PO, FGA, TH01, TPOX, vWA, D3S1358, D5S818, D7S820, D8S1179, D13S317, D16S539, D18S51, and D21S11

20 Core CODIS Loci: CSF1PO, FGA, TH01, TPOX, vWA, D1S1656, D2S441, D2S1338, D3S1358, D5S818, D7S820, D8S1179, D10S1248, D12S391, D13S317, D16S539, D18S51, D19S443, D21S11, and D22S1045

AWB: Analyst Workbench

CODIS: Combined DNA Index System

DFS: Department of Forensic Sciences

FBI: Federal Bureau of Investigation

FBU: Forensic Biology Unit

FSL: Forensic Science Laboratory

LDIS: Local DNA Index System

LIMS: Laboratory Information Management System

MME: Moderate Match Estimate

MRE: Match Rarity Estimate

NDIS: National DNA Index System

SDIS: State DNA Index System

3 Scope

- 3.1 The use of the CODIS in the District of Columbia is in accordance with the current versions of the *NDIS Operational Procedures Manual* and the *NDIS Security Requirements – Operational Procedures* and/or instructions provided to the District of Columbia Department of Forensic Sciences (DFS) by the FBI and the FBI's contractor.
- 3.2 The DFS is a SDIS level laboratory; however convicted offender samples for the District of Columbia are not processed or entered by the DFS. The DFS processes solely casework samples while the FBI processes the convicted offender samples for the District. The CODIS terminal and server are located on the 3rd floor of the Consolidated Forensic Laboratory, 401 E Street, SW, Washington, DC.
- 3.3 The CODIS software is designed by and provided to the DFS by the FBI. Upgrades and modifications to the software are periodically provided to the DFS by the FBI through the FBI's contractor.
- 3.4 In accordance with the CODIS license agreement between the DFS and the FBI, the DFS is strictly prohibited from copying or distributing the CODIS software and associated written material to individuals or organizations outside of the DFS.

- 3.5 The *NDIS Operational Procedures Manual* contains the governing procedures for the CODIS program. The DFS shall adhere to these policies and procedures.

4 Responsibilities

- 4.1 The DNA Technical Leader will:

- 4.1.1 Ensure that the Forensic Biology Unit (FBU) is operating in compliance with the standards established by the FBI pursuant to the Federal DNA Identification Act enacted in 1994 and the laws of the District of Columbia.
- 4.1.2 Provide input in resolving complex mixtures utilizing probabilistic genotyping results.

- 4.2 The State CODIS Administrator will:

- 4.2.1 Be responsible for all operations of the District of Columbia CODIS program.
- 4.2.2 Serve as the central point of contact between the NDIS participating laboratory and the NDIS Custodian and/or FBI CODIS Unit.
- 4.2.3 Review and/or approve, as appropriate, protocols or procedures for entry, searching and match resolution of DNA records in the DC DFS SDIS DNA database.
- 4.2.4 Ensure the security of data stored in the CODIS is in accordance with the NDIS operational procedures and the laws governing the District of Columbia, when applicable.
- 4.2.5 Ensure the FBU is operating in compliance with the NDIS policies and procedures.
- 4.2.6 Ensure the data entered into the CODIS is reliable and accurate.
- 4.2.7 Ensure the quality of data stored in the CODIS is in accordance with the NDIS operational procedures and the laws governing the District of Columbia, when applicable.
- 4.2.8 If an issue with the data is identified, terminate an analyst's access to the CODIS, or the laboratory's participation in the CODIS, until such a time as the reliability and security of the computer data can be ensured.
- 4.2.9 Set the SDIS search parameters and conduct auto-searches of the SDIS database.
- 4.2.10 Oversee verification of profile eligibility of all profiles marked for upload to the NDIS and ensure eligible profiles are marked for upload to NDIS.
- 4.2.11 Schedule and document the CODIS computer training of casework analysts.
- 4.2.12 Report the laboratory's change in status as outlined in the *NDIS Operational Procedures Manual*.

4.2.13 Carry out duties described in the *NDIS Operational Procedures Manual* not listed here.

4.3 The Alternate State CODIS Administrator will:

4.3.1 Provide support and back-up, as needed, for the State CODIS Administrator.

4.3.2 The Alternate State CODIS Administrator will fulfill the CODIS Administrator role when the CODIS Administrator is absent or unavailable.

4.4 The DNA Analyst will:

4.4.1 Generate DNA profiles.

4.4.2 Determine which profiles are suitable for CODIS entry.

4.4.3 Conduct a search of all appropriate case profiles in the FBU Quality Assurance DNA Database prior to technical review of the case file.

4.4.4 Enter CODIS-eligible profiles from the analyst's own cases into the CODIS at the SDIS level following technical review.

4.4.4.1 The State CODIS Administrator may delegate another qualified analyst to enter casework profiles generated by the DNA analyst.

4.4.5 Verify the CODIS entries made by other analysts in conjunction with technical case file reviews.

4.4.6 Mark case-related profiles for upload to the NDIS (if applicable) after completion of the technical review by another qualified analyst.

4.4.7 Include a statement in each laboratory report, as applicable, regarding which profiles were deemed CODIS-eligible and are maintained in the CODIS for routine searching. Also, include a statement that the customer will receive notification if a CODIS hit occurs or if the profile is removed from CODIS at any point in the future.

4.4.8 Inform the State CODIS Administrator/Alternate State CODIS Administrator of any CODIS-related actions related to their casework.

4.4.8.1 Such actions may include the subsequent determination that an unknown profile belongs to an elimination source (e.g., husband, boyfriend, etc.) and must be removed from the CODIS or the "Source ID" of a forensic specimen has been changed from "No" to "Yes".

4.4.9 As needed, request assistance from the State CODIS Administrator/Alternate State CODIS Administrator.

5 Procedures

5.1 Data Entry into the CODIS

Only those DNA profiles that meet CODIS eligibility requirements will be entered into the CODIS at the SDIS level, searched in the SDIS, and verified as NDIS-eligible prior to upload to the NDIS. Ineligible profiles (e.g., victim, elimination, etc.) will only be entered into the FBU Quality Assurance DNA Database.

5.1.1 General Information

- 5.1.1.1 As of April 1, 2017, at the DFS, an analysis of all 20 core CODIS loci shall be attempted for forensic casework samples. However, in light of the number of profiles maintained in the NDIS containing the original 13 core CODIS loci, the NDIS searches will be based upon the original 13 core CODIS loci.
- 5.1.1.2 Unknown casework DNA profiles will be searched by the DNA analyst against the FBU Quality Assurance DNA Database to verify the profile is not associated with a laboratory contaminant or laboratory staff/visitor.
- 5.1.1.3 The DNA analyst who generated the DNA profile(s), or a designated qualified DNA analyst, will enter the DNA profile(s) into the CODIS at the SDIS level via the Analyst Workbench (AWB) once a technical review of the case file has been performed.
 - 5.1.1.3.1 The DNA analyst will include a statement in the laboratory report regarding which profiles, if any, have been entered into the CODIS and maintained for routine searching. If applicable, the analyst will state that no CODIS eligible profiles were generated.
 - 5.1.1.3.2 The DNA analyst will also include a statement that the customer will be notified if a CODIS hits occurs or if the profile is removed from CODIS at any point in the future.
- 5.1.1.4 The CODIS eligibility, as well as the subsequently entered profile, will be verified in conjunction with the Technical Review process as defined by *LOM03 – Practices for Reviewing a Report of Examination*.
- 5.1.1.5 Following completion of the technical review process, the profile will be marked by the case analyst or a designated qualified DNA analyst for upload to the NDIS, if applicable. Prior to a search at NDIS, the CODIS Administrator will conduct the SDIS auto-search.
- 5.1.1.6 Every DNA profile entered must have a unique identifier. The unique identifier may be up to 24 characters in length.

- 5.1.1.6.1 Evidence DNA profiles will be entered using the following format: case number, forward slash, item number and, if applicable, fraction, major, or minor.
- 5.1.1.6.2 Supplemental case nomenclature is not required.
- 5.1.1.6.3 Generation of a profile by a vendor laboratory when testing has been outsourced will be clearly indicated by inclusion of the vendor's case number in the unique identifier.
- 5.1.1.6.4 Examples: M090001/1
M090001/1_DED
WDC1201-0051/E01
WDC1201-0051/E01SF_MAJ
DFS16-0001/1.1.1.1SF_I1 (or M1, F1)
(I = Individual; M = Male; F = Female)
- 5.1.1.7 The following specimen information fields will be completed at the time of entry:
 - 5.1.1.7.1 SPECIMEN CATEGORY
Refer to the *NDIS Operational Procedures Manual* for a complete listing and explanation of the available NDIS specimen categories.
 - 5.1.1.7.2 SOURCE ID
 - YES Indicates the source of the DNA profile has been named. (Indicate the source of the evidentiary profile in the comments section of the Database Entry Form.)
 - NO Indicates the source of the DNA profile is unknown.
 - 5.1.1.7.3 PARTIAL PROFILE
 - YES Indicates the DNA profile entered is not complete at all original 13 core CODIS loci and there may be additional information from the data which could aid in match resolution.
 - NO Indicates the DNA profile entered is complete at all original 13 core CODIS loci and there is no potential for allelic dropout nor is there additional information which would aid in match resolution.

5.1.1.7.4 SPECIMEN COMMENTS

This may be used to include information that may be beneficial in evaluating potential matches (e.g., a single source profile was deduced from a forensic mixture).

5.1.2 Forensic Casework Profiles

5.1.2.1 Loci Requirements for CODIS Entry and Upload

5.1.2.1.1 SDIS Entry and Upload

Forensic partial and forensic mixture DNA profile(s) developed from forensic casework must contain results at 7 or more of the original 13 core CODIS loci to qualify for entry and upload to the SDIS.

5.1.2.1.2 NDIS Entry and Upload

Forensic partial and forensic mixture DNA profile(s) developed from forensic casework must contain results at 8 or more of the original 13 core CODIS loci to qualify for entry and upload to the NDIS. DNA profiles developed from forensic casework must contain all original 13 CODIS core loci to qualify for entry and upload to NDIS in the forensic unknown specimen category.

5.1.3 Forensic Casework Non-Subject Profiles

5.1.3.1 The primary purpose of entering a forensic casework non-subject profile into the CODIS is to identify the possible perpetrator of that particular crime for which the DNA analysis was conducted.

5.1.3.2 For cases without a suspect or where the suspect has been eliminated, probative DNA profiles obtained from evidence that do not match submitted known samples (e.g., victim, suspect, elimination samples) may be treated as non-subject case profiles and entered into the CODIS.

5.1.3.3 For forensic casework where the primary DNA results include the suspect, other possibly probative DNA profiles obtained from items of evidence in the case that do not match any submitted known samples (e.g., victim, suspect, elimination samples) may be treated as non-subject case profiles and entered into the CODIS. The DNA analyst and State CODIS Administrator/Alternate State CODIS Administrator will determine whether a profile is probative in such situations by taking into consideration such factors as the nature of the specific item of evidence and the provided case scenario.

5.1.3.4 When multiple profiles that appear to be from the same unknown perpetrator are obtained, only the most complete profile will be entered into the CODIS. Duplicate and/or less complete profiles will not be entered into the CODIS.

5.1.4 Forensic Casework Subject Profiles

5.1.4.1 A forensic casework profile that matches a suspect may be entered into the CODIS. If the DNA results in a case indicate that only one perpetrator is involved, only the most complete forensic profile for that case matching the perpetrator will be entered into the CODIS. Other profiles that appear to be from the same perpetrator, but are less complete, will not be entered into the CODIS. In addition, if a case yields multiple identical DNA profiles attributed to the suspect, only one of those DNA profiles will be entered into the CODIS.

5.1.4.2 In forensic cases involving more than one perpetrator, more than one STR profile may be entered into the CODIS if the probative profiles from different items of evidence are found to be consistent with different individuals.

5.1.4.3 A profile developed from an item where the suspect's profile is expected to be present (e.g., evidence taken directly from the suspect, knife from suspect's house, gun from the suspect's vehicle, etc.) is considered a deduced suspect profile by NDIS and is therefore not CODIS eligible.

5.1.5 Forensic Mixture Profiles

5.1.5.1 The Match Estimation Utility tool in the CODIS software will be used on every forensic mixture profile entered into the CODIS. For the NDIS, match estimation should only use the original 13 core CODIS loci. The use of additional loci (i.e., D2S1338, D19S433, Penta D or Penta E) will skew the match estimation results.

5.1.5.1.1 For the SDIS, match estimation should use the 13 core CODIS loci along with D2S1338 and D19S433, if available.

5.1.5.2 Mixture With Deconvolved Contributor

5.1.5.2.1 For some forensic mixture profiles, a DNA profile of a contributor may be clearly discernable. If the contributor DNA profile is probative, the deconvolved DNA profile of the mixture may be entered into the CODIS.

5.1.5.3 Mixture Profile Without a Deconvolved Contributor

5.1.5.3.1 The DNA analyst will evaluate the mixture profile using current accepted mixture interpretation guidelines and procedures for interpreting STR mixture results in order to determine if the profile is appropriate for CODIS entry. The State CODIS Administrator/Alternate State CODIS Administrator and/or DNA Technical Leader may provide guidance as needed.

5.1.5.4 The goal when entering profiles into the CODIS is to capture the profile attributable to the putative perpetrator. The DNA analyst will evaluate the mixture profile and determine whether it is appropriate to enter the entire mixture profile, enter only those alleles foreign to the victim, or to not enter the profile into the CODIS at all. As necessary, the DNA analyst should consult with the State CODIS Administrator/Alternate State CODIS Administrator and/or the DNA Technical Leader to make this determination.

5.1.5.5 It is recognized that some mixture profiles are simply not meaningful and therefore should not be entered into the CODIS. A mixture profile with results at less than 7 of the original 13 core CODIS loci and/or a locus with more than four (4) alleles shall not be entered into the CODIS at the SDIS level unless approved by the State CODIS Administrator. The mixture profile intended for SDIS entry shall satisfy a statistical threshold for match rarity of approximately one in the size of the SDIS database at moderate stringency with the "Number of Loci Allowed to Miss" set to 1 using the Match Estimation Utility.

5.1.5.5.1 The specimen category Forensic Mixture_SDIS will be used for a mixture profile intended solely for upload to the SDIS.

5.1.5.6 A mixture profile entered into the CODIS that is intended for upload to the NDIS shall contain no more than four (4) alleles at any locus, contain results at a minimum of 8 of the original 13 core CODIS loci, and shall satisfy a statistical threshold for match rarity of approximately 1 in 10 million (1.000E+007) at moderate stringency (moderate match estimate) using the Match Estimation Utility.

5.1.5.7 An option to designate a required (obligate) allele is available for mixture profiles entered into the CODIS. Only one required allele may be designated for each locus. This designation is made by a plus sign (+) after the allele.

5.1.5.7.1 The required allele designation is helpful in reducing ambiguous matches when the entire mixture profile is entered into the CODIS. It will cause the search of the

profile to only show match candidates that contain the designated allele at a particular locus. Candidates without that designated allele for that locus will not be considered a match.

- 5.1.5.7.2 The required allele designation is used in conjunction with the search stringency – it does not replace the search stringency.
- 5.1.5.7.3 Caution is necessary when a required allele designation is used. The erroneous designation of an allele as a required allele may result in the evidence profile not matching with associated evidentiary or offender/arrestee profiles during the search. If necessary, consult with the State CODIS Administrator/Alternate State CODIS Administrator regarding the use of the required allele designation and its effect on the search results.

5.1.6 Forensic Partial Profiles

- 5.1.6.1 In the context of profile entry into the CODIS, a partial profile is a profile which appears to have locus or allelic dropout at any of the 13 original CODIS core loci. Partial profiles may be from a single source or a deduced profile originating from a mixture.
 - 5.1.6.1.1 For CODIS entry purposes, a partial mixture profile is categorized as specimen category “Forensic Mixture” or “Forensic Mixture_SDIS”.
- 5.1.6.2 The Match Estimation Utility will be used on every forensic partial profile entered into the CODIS. For the NDIS, match estimation should only use the original CODIS 13 core loci. The use of additional loci (i.e., D2S1338, D19S433, Penta D or Penta E) will skew the match estimation results.
 - 5.1.6.2.1 For the SDIS, match estimation should use the original 13 core CODIS loci along with D2S1338 and D19S433, if available.
- 5.1.6.3 A partial profile entered into CODIS that is intended for upload to the NDIS shall contain results at a minimum of 8 of the original 13 core CODIS loci and shall satisfy a statistical threshold for match rarity of approximately 1 in 10 million (1.000E+007) at moderate stringency using the Match Estimation Utility.
- 5.1.6.4 A partial profile that is intended solely for upload to the SDIS shall contain results at a minimum of 7 of original 13 core CODIS loci and shall satisfy a statistical threshold for match rarity of approximately one in the size of the SDIS database at moderate

stringency with the “Number of Loci Allowed to Miss” set to 1 using the Match Estimation Utility.

5.1.6.4.1 When a match rarity value of approximately two in the size of the SDIS database is obtained using the Match Estimation Utility, consult with the State CODIS Administrator.

5.1.6.4.2 The specimen category Forensic Partial_SDIS will be used for a partial profile intended solely for upload to the SDIS.

5.1.6.5 When entering a partial profile use the partial profile indicator at the locus level if applicable.

5.1.6.6 A partial profile with results at less than 7 core CODIS loci shall not be entered into the CODIS at the SDIS level unless approved by the State CODIS Administrator.

5.1.7 Profiles of Unidentified Human Remains, Unidentified Persons, and Missing Persons

5.1.7.1 The profiles from cases involving unidentified human remains, unidentified persons (dead or alive), and missing persons can be entered into the CODIS. The profiles of possible biological relatives of a missing person can also be entered into the CODIS. Amelogenin results for the above profiles must be entered into the CODIS.

5.2 Administrative Removals or Expungements of Profiles

5.2.1 It is recognized that occasionally a profile that was previously entered and uploaded into the CODIS will need to be administratively removed or expunged. The customer will be notified if a profile is removed at any point in the future.

5.2.2 Administrative removal or expungement of a forensic specimen profile that has been entered into a searchable Index will occur after consultation with the State CODIS Administrator/Alternate State CODIS Administrator.

5.2.3 The Specimen Deletion Report that is generated as a result of a profile administrative removal or expungement will be added to the case file for documentation of such a removal.

5.3 Review Procedures for CODIS Entry (cases processed in-house)

5.3.1 A review of entered DNA types, CODIS eligibility, and specimen category will be conducted on all profiles prior to upload to the SDIS, and subsequently the NDIS (if applicable). This review is conducted in

compliance with the FBI DNA Quality Assurance Standards and the NDIS requirements that prohibit entry or search of unreviewed casework DNA profiles in the NDIS. The purpose of this review is to ensure that all profiles are verified for CODIS eligibility, are the correct DNA types and are assigned the appropriate specimen category prior to upload to the SDIS and the NDIS.

- 5.3.2 To meet this CODIS review requirement at the DFS, the review, as set forth below, will be conducted by another qualified examiner during the Technical Review process and will be documented by the Technical Reviewer on the *Database Entry Form* (Document Control Number: 3880).
- 5.3.3 Prior to submitting the case file for technical review, the casework analyst will prepare a *Database Entry Form* listing each profile considered suitable for entry into the CODIS, as well as any profile(s) requiring entry into the QA Database.
 - 5.3.3.1 The casework analyst will fill in the “Item”, “Item No.”, “CODIS Specimen Category”, “Source ID”, “Partial Profile” and “QA Database Sample Type” fields, as well as listing the profile in the “CODIS/QA Database Profile(s)” area.
 - 5.3.3.1.1 Profiles considered suitable for entry into the CODIS will be highlighted.
 - 5.3.3.1.2 When listing partial profiles under “CODIS/QA Database Profile(s)”, partial loci will be designated with the allele call along with the designated nomenclature [P] (i.e. 8,[P]).
 - 5.3.3.2 The casework analyst will include a statement in the draft of the laboratory report that states which profiles, if any, have been entered into the CODIS and maintained for routine searching. If applicable, the analyst will state that no CODIS eligible profiles were generated.
 - 5.3.3.3 The DNA analyst will also include a statement that the customer will be notified if a CODIS hits occurs or if the profile is removed from CODIS at any point in the future.
 - 5.3.3.4 The casework analyst will enter the suitable profile(s) into the QA Database.
 - 5.3.3.4.1 Entry and search of the profile(s) will be documented by completion of the “Entered/searched QA DB:” line with date and initials.
- 5.3.4 As part of the initial technical case file review, the Technical Reviewer will verify the following:

5.3.4.1 The DNA types listed on the *Database Entry Form* are correct, as well as verifying the listed specimen category is correct and that the profile meets CODIS eligibility requirements.

5.3.4.1.1 The technical reviewer will document this review by completing the “Technical Reviewer Verified:” section of the *Database Entry Form* and the “Technical Review:” line with date and initials.

5.3.4.2 The profile(s) entered into the QA Database are correct.

5.3.4.2.1 This verification will be documented by completion of the “QA DB Entry Reviewed:” line with date and initials.

5.3.4.3 Verification of DNA Types

5.3.4.3.1 A DNA profile contained on a *Database Entry Form* will be verified by the Technical Reviewer via the technical review process as defined by LOM03 – Practices for Reviewing a Report of Examination.

5.3.4.4 Eligibility for the CODIS

5.3.4.4.1 The Technical Reviewer will ensure that an evidence profile meets CODIS eligibility requirements. Specifically, the Technical Reviewer will confirm that the evidence profile:

- is not attributed to a victim or elimination sample;
- is not developed from an item where the suspect’s profile is expected to be present (e.g., knife from suspect’s house, gun from suspect’s vehicle, etc.); and
- is from an item of evidence directly associated with the crime scene.

5.3.4.4.2 Refer to the *NDIS Operational Procedures Manual* for an explanation of eligible profiles

5.3.4.5 Specimen Category

5.3.4.5.1 The Technical Reviewer will ensure that the evidence profile is assigned the correct specimen category. Refer to the *NDIS Operational Procedures Manual* for a complete listing and explanation of the available NDIS specimen categories.

5.3.5 After the initial technical case file review, the case file will be returned to the casework analyst. For those profiles verified and confirmed as eligible for the CODIS by the Technical Reviewer, the casework analyst will enter the profile(s) into the CODIS via the AWB and add the resulting Specimen Details Report(s) to the case file.

5.3.5.1 The casework analyst will complete the "Entered CODIS (post TR):" line with date and initials.

5.3.6 The case file will subsequently be returned to the Technical Reviewer. At this time the Technical Reviewer will verify that the DNA types on the Specimen Details Report are correct.

5.3.6.1 The Technical Reviewer will document this verification on the *Database Entry Form* by completing the "Entry Verified:" line with date and initials.

5.3.6.2 At the completion of the Technical Review, the casework analyst will mark the applicable profile(s) for NDIS upload, complete the "Marked for Upload:" line with date and initials on the Database Entry Form.

5.3.6.2.1 Profiles that are only SDIS eligible do not get marked.

5.4 Verifying and Providing Notification of a CODIS Hit

5.4.1 Forensic to Offender/Arrestee Hits

5.4.1.1 The State CODIS Administrator/Alternate State CODIS Administrator or a qualified DNA analyst will verify or eliminate the possible CODIS candidate match between a forensic casework profile and Convicted Offender/Arrestee profile by comparing the DNA STR profiles between the potential candidate matches listed on the National Match Detail Report.

5.4.1.1.1 The DNA analyst shall use all factors concerning the profiles in question (e.g., single source vs. mixture profile, relative allele intensities, difference in amplification kits, possible allele dropout, nature of the evidence, experience in mixture interpretation) to determine whether a possible match is an elimination or an inclusion. The match is considered verified when the manual comparison reveals no unexplained differences between the DNA profiles involved.

5.4.1.2 Documentation of the verification must include the initials of the verifying analyst and the date of verification.

5.4.1.3 For Forensic Casework Non-Subject Profiles, if the State CODIS Administrator/Alternate State CODIS Administrator or qualified

analyst determines there is a match, a *CODIS DNA Match Data Request Offender Hit* form or *CODIS DNA Match Data Request Arrestee Hit* form will be prepared requesting a match confirmation from the NDIS participating laboratory that entered the Convicted Offender/Arrestee profile into the CODIS.

5.4.1.3.1 A CODIS Hit Notification will be issued by the State CODIS Administrator/Alternate State CODIS Administrator when the matching laboratory provides the Convicted Offender/Arrestee information. The administrative review of the CODIS Hit Notification will be completed by the original casework analyst or a designated qualified DNA analyst/technician. The CODIS Hit Notification will be distributed to the appropriate client agencies (e.g., investigative, criminal justice, etc.) following the normal laboratory distribution procedure.

5.4.1.3.2 The CODIS hit will be dispositioned in the CODIS in accordance with the NDIS policies and procedures.

5.4.1.3.3 The CODIS Specimen Source ID associated with the CODIS match will be updated to “yes”.

5.4.1.4 For Forensic Casework Known Subject Profiles, the State CODIS Administrator/Alternate State CODIS Administrator will request the Subject name confirmation from the NDIS participating laboratory that entered the Convicted Offender/Arrestee profile into the CODIS.

5.4.1.4.1 The CODIS match will be dispositioned in the CODIS in accordance with the NDIS policies and procedures.

5.4.2 Forensic Case-to-Case Hits

5.4.2.1 The State CODIS Administrator/Alternate State CODIS Administrator or a qualified DNA analyst will verify or eliminate the possible CODIS candidate match between a forensic casework profile and another forensic casework profile by comparing the DNA STR profiles between the potential candidate matches listed on the State or National Match Detail Report.

5.4.2.1.1 The DNA analyst shall use all factors concerning the profiles in question (e.g., single source vs. mixture profile, relative allele intensities, difference in amplification kits, possible allele dropout, nature of the evidence, experience in mixture interpretation) to determine whether a possible match is an elimination or an inclusion. The match is considered verified when

the manual comparison reveals no unexplained differences between the DNA profiles involved.

5.4.2.2 Documentation of the verification must include the initials of the verifying analyst and the date of verification.

5.4.2.3 For Internal Forensic Case-to-Case hits, a CODIS Hit Notification will be issued by the State CODIS Administrator/Alternate State CODIS Administrator. The administrative review of the CODIS Hit Notification will be completed by the original casework analyst(s) or a designated qualified DNA analyst/technician.

5.4.2.3.1 The CODIS Hit Notification will be distributed to the appropriate client agencies (e.g., investigative, criminal justice, etc.) following the normal laboratory distribution procedure.

5.4.2.3.2 The CODIS hit will be dispositioned in the CODIS in accordance with the NDIS policies and procedures.

5.4.2.4 For External Forensic Case-to-Case hits, a *CODIS DNA Match Data Request Forensic Hit* form will be prepared and submitted to the NDIS participating laboratory that entered the forensic profile.

5.4.2.4.1 A CODIS Hit Notification will be issued by the State CODIS Administrator/Alternate State CODIS Administrator when the matching laboratory provides the case information. The administrative review of the CODIS Hit Notification will be completed by the original casework analyst or a designated qualified DNA analyst/technician.

5.4.2.4.2 The CODIS Hit Notification will be distributed to the appropriate client agencies (e.g., investigative or criminal justice) following the normal laboratory distribution procedure.

5.4.2.4.3 The CODIS hit will be dispositioned in the CODIS in accordance with the NDIS policies and procedures.

5.5 Profiles Obtained from Outsourced Testing

5.5.1 The laboratory will not upload or accept DNA data for upload to the CODIS from any vendor laboratory or agency without documented prior approval of the technical specifications of the outsourcing agreement and/or documented approval of acceptance of ownership of the DNA data by the DFS FBU DNA Technical Leader.

5.5.2 For rare instances where the NDIS participating laboratory is requested to take ownership and no outsourcing agreement exists between either the law enforcement agency, the vendor laboratory or that NDIS participating

laboratory, the requested NDIS participating laboratory's Technical Leader shall document the following prior to acceptance of ownership of product(s) of forensic DNA analyses from the vendor laboratory:

- 5.5.2.1 Approval of the casework CODIS administrator and written permission from the NDIS Custodian for any scenario that involves CODIS entry or searching;
 - 5.5.2.2 Approval of the technical specifications of testing; and
 - 5.5.2.3 Review the documentation of or conduct an on-site visit of the vendor laboratory. The on-site visit shall have been within one year of the conducted analysis.
- 5.5.3 Prior to entry of a profile generated from a vendor laboratory into the SDIS and subsequent search of the profile in the SDIS and upload of the profile to the NDIS, a technical review of the vendor laboratory's DNA data will be performed by an analyst or technical reviewer employed by or under contract with the DFS who is qualified or previously qualified in the technology, platform and typing amplification test kit used to generate the data. This technical reviewer must participate in the DFS's proficiency testing program.
- 5.5.3.1 The technical review will include the following:
- 5.5.3.1.1 A review of all DNA types to verify that they are supported by the raw and/or analyzed data (electropherograms or images).
 - 5.5.3.1.2 A review of all associated controls, internal lane standards and allelic ladders to verify expected results were obtained.
 - 5.5.3.1.3 A review of the final report to verify that the results/conclusions are supported by the data. The report will address each tested item (and/or its probative fractions) submitted to the vendor laboratory.
 - 5.5.3.1.4 The technical review will be documented on the *Contract Laboratory DNA Technical Review Form* (Document Control Number: 1691) and maintained in the case file.
- 5.5.3.2 At completion of the technical review:
- 5.5.3.2.1 The technical reviewer will complete a *Database Entry Form* and enter the suitable profile(s) into the CODIS at the SDIS level via the AWB.

- 5.5.3.2.1.1 The technical reviewer will complete the “Entered CODIS (post TR):” line with date and initials on the *Database Entry Form*.
- 5.5.3.2.1.2 The “Entered/searched QA DB:” and “QA Database Entry Reviewed:” sections of the *Database Entry Form* are not applicable for outsourced cases and should be given the designation “n/a”.
- 5.5.3.2.2 The State CODIS Administrator/Alternate State CODIS Administrator or qualified DNA analyst will subsequently verify the DNA types of the entered profile, as well as confirm the CODIS eligibility and specimen category for the profile. This verification will be documented on the *Database Entry Form* on the “Entry Verified:” line with date and initials.
- 5.5.3.2.3 The Technical Reviewer or qualified analyst will mark the applicable profile(s) for upload to NDIS upon completion of the verification of DNA types, specimen category, and eligibility. The Technical Reviewer will indicate the marked for upload date on the Database Entry Form on the “Marked for Upload:” line with date and initials.
- 5.5.3.2.4 The SDIS auto-search and the NDIS upload will take place in accordance with the schedule set by the State CODIS Administrator.
- 5.5.3.2.5 A CODIS Entry Notification will be prepared notifying client agencies that the outsourced data has been technically reviewed; documenting the associated CODIS eligible profile(s) and the entry of the CODIS eligible profile(s). In addition, a statement will be included that notification will be provided if a CODIS hit occurs or if a profile is removed from CODIS at any point in the future.
- 5.5.3.2.6 A CODIS Evaluation Notification will be prepared notifying client agencies that the outsourced data has been evaluated and no CODIS eligible profile(s) were identified. A technical review of the data is not required for non-CODIS eligible profiles.
 - 5.5.3.2.6.1 The administrative review of the CODIS Entry/Evaluation Notification will be completed by the State CODIS Administrator/ Alternate State CODIS

Administrator or qualified DNA analyst/technician.

- 5.5.3.2.6.2 The CODIS Entry/Evaluation Notification will be distributed to the appropriate client agencies (e.g., investigative, criminal justice, etc.) following normal laboratory distribution procedures.

5.6 Release of CODIS Entry and Match Information

- 5.6.1 The DFS acknowledges that law enforcement investigators and government attorneys will contact the laboratory inquiring about the status of a case or particular profile in the CODIS. These inquiries should be directed to the State CODIS Administrator, Alternate State CODIS Administrator, or designee (i.e., DNA Technical Leader, qualified analyst).

5.7 Release of CODIS Match Excel Database Information

- 5.7.1 The CODIS Match Excel Database contains information pertaining to the case status of confirmed matches.
 - 5.7.1.1 Confirmed matches must be verified by the State CODIS Administrator or another qualified designee. The CODIS Hit Notification and corresponding case file will undergo an Administrative Review prior to adding the match information to the CODIS Match Excel Database.
- 5.7.2 The CODIS Match Excel Database will be distributed to authorized law enforcement Command Staff and Investigators in conjunction with the interagency CODIS meeting.
- 5.7.3 The CODIS Match Excel Database will be routinely updated to reflect the most current case status information which was provided by authorized law enforcement to the State CODIS Administrator/Alternate State CODIS Administrator.

6 Documentation

- 6.1 The following worksheet(s) and/or document(s) shall be generated, as appropriate, and managed:
 - 6.1.1 *Database Entry Form* (Document Control Number: 3880)
 - 6.1.2 Specimen Details Report
 - 6.1.3 Match Estimation Report
 - 6.1.4 FBU Quality Assurance DNA Database search page

- 6.1.5 Specimen Deletion Report
- 6.1.6 *CODIS DNA Match Data Request Forensic Hit* form
- 6.1.7 *CODIS DNA Match Data Request Offender Hit* form
- 6.1.8 *CODIS DNA Match Data Request Arrestee Hit* form
- 6.1.9 CODIS Hit Notification
- 6.1.10 CODIS Entry Notification
- 6.1.11 CODIS Evaluation Notification
- 6.1.12 CODIS Match Excel Database
- 6.1.13 *Contract Laboratory DNA Technical Review Form* (Document Control Number: 1691)

7 References

- 7.1 National DNA Index System (NDIS) Operational Procedures Manual (current revision)
- 7.2 NDIS Security Requirements – Operational Procedures (current revision)
- 7.3 CODIS Administrator’s Handbook (current version)
- 7.4 CODIS Bulletins
- 7.5 LOM03 – Practices for Reviewing a Report of Examination (current revision)
- 7.6 Quality Assurance Standards for Forensic DNA Testing Laboratories, Federal Bureau of Investigation (current revision)

8 Appendix

8.1 Disposition Abbreviations

- AH:** Arrestee Hit
- CM:** Conviction Match
- DM:** Duplicate Match
- FH:** Forensic Hit
- II:** Investigative Information
- OH:** Offender Hit